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SUPPLY BEARING, AUTOMOBILE-TRACTOR, OTHER INDUSTRIES WITH NEW EQUIPMENT; PROPOSE NEW TECHNOLOGIES FOR HIGHER OUTPUT

TO FURNISH BEARING PLANT WITH MORE ELECTRIC SPINDLES -- Moscow, Vechernyaya Moskva, 4 Oct 51

The Moscow Second State Bearing Plant has a machine tool which in appearance hardly differs from other internal grinding machines installed at the plant. Only its spindle is completely different. This is because of the peculiar arrangement of the electric motor, which has the grinding wheel mounted directly on its shaft.

Although the electric spindle reaches 60,000 revolutions per minute, it is absolutely noiseless. Grinding with the new electric spindle is accomplished at a speed of 50-65 meters per minute.

The experimental design of the electric spindle was developed by the plant by Koptsov, chief engineer; Kuperman, chief engineer of the Division of the Chief Technologist; Ksenokratov, former chief of the grinding shop; Professors Petrov and Chechet; Docent Shashanov; and others.

A particularly difficult problem in this project was the development of bearings for the electric spindle. The most suitable appeared to be sliding bearings, cooled by running water. While the spindle is in operation, a jet of well-filtered oil passes under pressure between its shaft and the bearings. The spindle seems to float on the bearings. This assures smooth, accurate, and noiseless operation of the mechanism.

The first internal grinding machine with a superspeed electric spindle has been in operation for about one year. The quality of grinding on this machine at 60,000 revolutions per minute is considerably better than on ordinary internal grinding machines at 16,000 revolutions per minute. The new arrangement permits high-speed grinding in the manufacture of the most accurate, so-called precision, bearings.

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Several more machine tools at the plant are to be equipped with superspeed electric spindles in 1951. For this purpose, the Moscow Abrasives Plant must produce grinding wheels of increased hardness, and the Ministry of Electrical Industry must manufacture special generators for the Second State Bearing Plant.

MASTERS PRODUCTION OF PRECISION MACHINES -- Yerevan, Kommunist, 20 Oct 51

The Leningrad Tool Plant has mastered the production of new unique types of machines.

On order of the Moscow University imeni M. V. Lomonosov, the first model of a cylindrical graduating machine has been manufactured. It is exceptional for its high precision and is used for marking especially complex parts of machine tools and instruments.

Series production of inspection automatics for enterprises of the bearing industry has been started. Each automatic replaces 50 inspectors.

Frunze, Sovetskaya Kirgiziya, 4 Dec 51

On 30 November, surface grinding machines at the Leningrad Tool Plant were converted to high-speed methods. The speed of the grinding wheel was doubled and the cross and longitudinal feeds were increased.

In one of the sections, constant-flow production of gauges has been introduced. Now, threads are not cut with a chaser but with a tap, which speeds up the operation and decreases auxiliary time to one fifth.

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In 1951, tool makers have increased the productivity of machine tools 30 percent. For every thousand rubles of fixed assets, 27 percent more products were produced than in 1950.

SHIP MACHINE TOOLS TO OTHER CITIES -- Frunze, Sovetskaya Kirgiziya, 24 Nov 51

The Minsk Machine Tool Building Plant imeni Voroshilov has shipped several flatcars loaded with metal working machine tools to enterprises in Nikolayev and Dnepropetrovsk.

SHIP NEW AUTOMATIC EQUIPMENT TO MACHINE BUILDING PLANTS -- Kishinev, Sovetskaya Moldaviya, 24 Nov 51

Enterprises of the Ministry of Machine Tool Building have produced a series of new automatic equipment.

Five automatic transfer machine lines have been shipped to automobile and tractor building plants.

These automatic lines are now used not only at automobile and tractor plants but also at transport and agricultural machine building enterprises.

Special machine tools are now being produced which are exceptional for their high productivity and assure high quality of finished products. One of these machine tools, for example, can complete 25 engine housings in one hour. Because of a special loading device, one worker can attend several such machine tools. Another special machine tool, a vertical drilling combination machine was recently installed at the Gor'kiy Automobile Plant imeni Molotov. Equipped with hydraulic and pneumatic mechanisms, this machine can process 30 automobile cylinder blocks in one hour.

PRODUCE NEW MACHINE TOOLS FOR ZIM PARTS -- Moscow, Komsomol'skaya Pravda, 8 Dec 51

The Moscow Machine Tool Building Plant imeni Ordzhonikidze has produced a semiautomatic machine tool for machining parts for the light ZIM automobile.

The Moscow Grinding Machine Plant has manufactured a powerful semiautomatic for grinding plowshares. It can grind up to 300 plowshares per hour. A new machine tool produced by this enterprise polishes thin sheet metal. The polishing roller makes up to 1,500 revolutions per minute.

CONSIGN NEW BORING MILLS TO AUTOMOBILE AND TRACTOR PLANTS -- Yerevan, Kommunist, 4 Dec 51

The Kiev Machine Tool Building Plant imeni Gor'kiy has manufactured the first series of new-type boring mills. Shipment of the new machines to enterprises of the automobile and tractor industry was started on 28 November.

The new machines are intended for the manufacture of large steel and cast-iron parts.

TO BUILD 9- AND 18-METER VERTICAL BORING MILLS -- Moscow, Moskovskaya Pravda, 23 Dec 51

Kolomna machine tool builders [Kolomna Heavy Machine Tool Building Plant] have completed the assembly of the new 5-meter vertical boring mill for machining parts up to 40 tons in weight. The weight of the machine tool is 175 tons. One man can control the machine from a push-button station.

In the near future, the machine tool builders will begin production of 9-meter and 18-meter vertical boring mills.

SUPPLY ELECTRICAL MACHINE BUILDING PLANT WITH NEW EQUIPMENT -- Tallin, Sovetskaya Estoniya, 28 Dec 51

A large variety of the newest equipment was sent to the Tallin Vol'ta Plant by different machine tool building plants in 1951. The Moscow Krasnyy Proletariy Plant sent combination machine tools specially designed for high-speed machining of metals, and semiautomatic lathes. The Moscow Plant imeni Sergo Ordzhonikidze sent combination machine tools for machining electric motor housings. A semiautomatic press was sent from Voronezh [probably the Press and Forging Equipment Plant imeni Kalinin] and a modernized lathe from Tbilisi [either the Machine Tool Plant imeni Kirov or the Stanok Plant].

An automatic transfer machine line has been installed along one wall of the machine shop of the Vol'ta Plant for complete machining of electric motor shafts. It will soon be adjusted, set up, and put into operation.

Powerful vertical boring mills and machines for pressure casting have also been perfected.

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DEVELOP, INTRODUCE NEW TECHNOLOGY FOR MACHINE TOOL ASSEMBLY -- Leningradskaya Pravda, 11 Nov 51

A new technology for the assembly of machine tools according to a constant-flow, cyclic schedule has been developed and introduced at the Vil'nyus Zhal'-giris Machine Tool Building Plant.

The assembly of shapers is broken down into 19 cycles, corresponding the number of units. The work is performed according to schedule by 19 brigades. The new technology has made it possible to almost double the output of machine tools.

DESIGNS GRADUATED MILLS FOR HIGH-SPEED MILLING -- Moscow, Vechernyaya Moskva, 12 Dec 51

Many specialists are of the opinion that high-speed milling is possible only on machine tools with high power. In his book, High-Speed Milling With Graduated Mills, N. Chernov, engineer, disproves this theory, and describes how high-speed milling is possible on ordinary machines. He designed milling cutters with graduated spacing of teeth. With the use of these cutters, the power of the motor does not have to be increased for high-speed milling.

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